U.S. Fish & Wildlife Service - Midwest Region
Fisheries & Aquatic Resources Program

Fish Lines

Keeping Asian Carp OUT of the Great Lakes

Sturgeon Release Through Streamside Rearing

Fish Passage Planning and Evaluation at Upper Mississippi Locks and Dams!

Record Breaking Year For the La Crosse FHC

Conserving America's Fisheries
Vol. 8 No. 2
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Fish Lines

Fisheries & Aquatic Resources Program - Midwest Region

The Mission of the U.S. Fish & Wildlife Service: working with others to conserve, protect and enhance fish, wildlife, and plants and their habitats for the continuing benefit of the American people.

The vision of the Service's Fisheries Program is working with partners to restore and maintain fish and other aquatic resources at self-sustaining levels and to support Federal mitigation programs for the benefit of the American public. Implementing this vision will help the Fisheries Program do more for aquatic resources and the people who value and depend on them through enhanced partnerships, scientific integrity, and a balanced approach to conservation.

Features

-USFWS/PattyHerman

Andy Plauck and Patty Herman of the Columbia Fish and Wildlife Conservation Office set a mini-fyke net as part of standard sampling for the Pallid Sturgeon Population Assessment Project.

To view other issues of "Fish Lines," visit our website at:
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-USFWS/KarlaBartelt

A boat crew looks for invasive Asian carp during a recent rotenone action designed to keep Asian carp out of the Great Lakes.

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Conservation Briefs 10-22

Keeping Asian Carp out of the Great Lakes

BY SAM FINNEY, CARTERVILLE FWCO

The Fish and Wildlife Service played an important role in the recent rotenone action designed to keep Asian carp out of the Great Lakes. The Fish and Wildlife Service provided over 50 people from 2 regions and across 3 programs for the effort. Individuals from all three arms of Fisheries (Fish and Wildlife Conservation Offices, National Fish Hatcheries and Sea Lamprey Control), Refuges, and Ecological Services all participated in the event. Duties ranged from the intensive role of Planning Section Chief of the Incident Management Team to chemical application of rotenone; from netting dead fish, traffic control and logistical support to help in drafting the rapid response plan. Over 400 people participated in the project including staff from other state and federal agencies, Canada, private contractors and non-governmental organizations.

-USFWS/KarlaBartelt

Sam Finney of the Carterville Fish and Wildlife Conservation Office holds an invasvive bighead carp that was removed from the Illinois Waterway.

An electric barrier on the Chicago Sanitary and Shipping Canal designed to repel fish from the Mississippi River basin from swimming upstream and into the Great Lakes was scheduled to go down for regular maintenance. Recent environmental DNA evidence suggested the presence of Asian carp below the barrier and the decision was made to remove all fish with rotenone in the 5.7 mile area below the barrier to Lockport Dam, effectively clearing the area of any Asian carp so that the barrier could be shut down, maintained and safely turned back on.

The application of 2,200 gallons of rotenone began on December 2nd and ran into the next day and was the largest deliberate fish kill in the State of Illinois. Detoxification of the rotenone by sodium permanganate began thereafter. The operation was considered successful in accomplishing its objective of clearing the area of fish. All fish that came to the surface were found dead and removed from the water including a single specimen of Asian carp (bighead carp). The consensus view is that many more fish are lying on the bottom of the canal, having sunk after dying. No reports of significant numbers of dead fish came in from non target areas. The barrier was turned off, maintained and is now turned back on and fully operational.

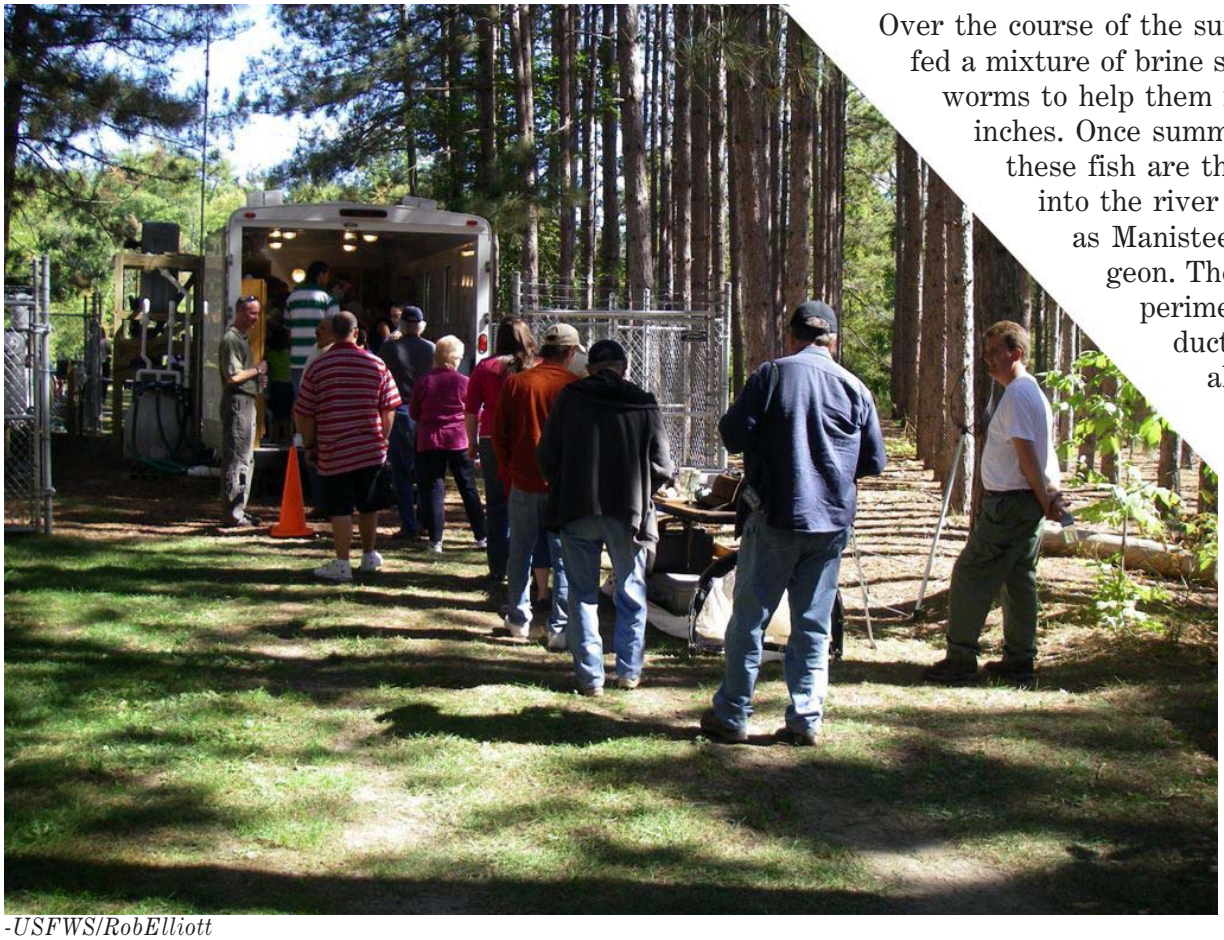
For further info about the Carterville FWCO: http://www.fws.gov/midwest/Fisheries/library/StationFactSheets/carterville.pdf

Streamside Rearing furthers Rehabilitation of Lake Sturgeon in Lake Michigan

BY ROB ELLIOTT, GREEN BAY FWCO

Saturday, September 18 marked the first of five release events of lake sturgeon into Lake Michigan tributaries this fall, all part of a coordinated lake-wide rehabilitation effort to restore a healthy abundance and diversity of this imperiled species to the Lake Michigan watershed. On this particular day, over 100 people including members from the Little River Band of Ottawa Indians, citizens from the Manistee River watershed area, biologists from tribal, state, and federal agencies, a film crew, and many others joined together to participate in and witness the release of young sturgeon into the Manistee River. Rob Elliott from the Green Bay Fish and Wildlife Conservation Office (FWCO) and Jim Thompson from the Huron-Manistee National Forest received special invitations to represent their agencies at the release ceremony and were recognized for their contribution and support of this rehabilitation effort.

The small lake sturgeon released that day, though seemingly insignificant in size compared to their 5-6 ft long parents, represent the future hope for this remnant lake sturgeon population. These youngsters got their start in the usual way, as eggs deposited naturally on the spawning grounds in the Manistee River; however, they soon found themselves in a very non-traditional and relatively high-tech environment compared to the open river. For each of the past six years, staff and volunteers from the Little River Band have spent countless nights during May and June collecting wild fertilized eggs and recently hatched larvae from the Manistee River. Their goal is to collect up to but not more than 10% of the eggs or larvae that are produced naturally in the river and bring them into a "streamside rearing facility" they designed and had built for the sole purpose of increasing the survival of these young fish during their first few months of life.



-USFWS/RobElliott

People wait their turn to tour the Manistee River lake sturgeon streamside rearing facility during the September, 2009 release event held by the Little River Band of Ottawa Indians.

Over the course of the summer, the fish are fed a mixture of brine shrimp and bloodworms to help them reach a size of 6-10 inches. Once summer comes to a close, these fish are then released back into the river to continue their life as Manistee River lake sturgeon. The work is still experimental, being conducted in a manner that allows the Little River Band biologists to compare the growth, behavior and eventual survival of these streamside reared fish to their brothers and sisters that were not collected but remained in the river to survive and grow on their own during their first summer.

Why all this effort and why use streamside rearing facilities instead of a traditional fish hatchery? First, the Manistee River lake sturgeon population is one of only a few sturgeon populations around Lake Michigan that have survived the onslaught of human development, but just barely. The abundance of this remnant population is critically low with less than 50 adults returning to spawn in a typical year. With so few adults remaining in the population, their continued sustainability is at risk and thus their long-term future uncertain. Even with protection of existing habitat and continued successful natural reproduction, population rehabilitation to target levels that would ensure their long-term persistence and health (a minimum viable population target of 750 adult fish) might take dozens if not hundreds of years. And the evidence suggests that the population might not increase in abundance at all if having to rely on their own ability to sustain themselves due to the low population size. It is hoped that by continuing to protect and restore critical habitat and increase the survival of a portion of the young fish produced each year, that this population can reach a healthy minimum viable population size more quickly, reducing their risk of extirpation.

Rearing the young lake sturgeon in a streamside facility is a critically important aspect of this effort as it may be the only way to ensure the fish imprint to their natal waters. Research has confirmed that sturgeon populations from different rivers differ genetically, a difference maintained by the fish's propensity to return and spawn in the river where they were born. Though the actual mechanism of imprinting in lake sturgeon is unknown, it is suspected that they imprint to their natal river early in life. It also has been shown that if fish are reared in a traditional hatchery, not located streamside and not using water from their home river, that fish may stray and upon reaching maturity and return to a different river to spawn. Not only does that not contribute to rehabilitation of the desired population, but it can have unintended negative genetic consequences for other populations.

So far, the idea of streamside rearing assistance seems to be working. Regular summer and fall surveys of young age 0 and age 1 sturgeon in the Manistee River suggest that the fish that are released from the rearing facilities each year end up accounting for more than 50% of the total river production for that year. Results like this could cut the rehabilitation time for small populations in half. But so far, this work is still just getting started. This is only the sixth year the Little River Band has released streamside reared lake sturgeon back into the Manistee River. Because it takes 15-25 years for these fish to mature, there are still many years of work ahead before the full results will be realized.

-GregoryAD/GregLashbrook

A young lake sturgeon is released into the Manistee River as part of the Little River Band of Ottawa Indians streamside rearing release ceremony.

-USFWS/RobElliott

Staff from the Little River Band of Ottawa Indians raise lake sturgeon in this steamside rearing facility, using water from the Manistee River to culture the fish. The process enhances survival while maintaining fidelity to their nature waters.

The initial success of streamside rearing has already begun to spread to other areas around Lake Michigan. The concept is now being used by the Wisconsin and Michigan Departments of Natural Resources (DNR) to reintroduce young sturgeon into four other rivers, the Milwaukee and Kewaunee in Wisconsin, and the Cedar and Whitefish in Michigan. Lake sturgeon were extirpated from each of these rivers years ago but through the use of streamside rearing facilities, it is hoped that sturgeon will again spawn naturally in these rivers. As on the banks of the Manistee River, people gathered this fall along the banks of these other rivers like the Milwaukee River, in a common effort to reintroduce young sturgeon to waters where sturgeon have been absent for many years. The principals of these coordinated efforts remain the same – restoring a minimum viable spawning population that can then continue to reproduce on its own over the decades and centuries ahead. The only difference is because there are no remnant lake sturgeon left in these extirpated rivers, gametes (eggs and sperm) need to be collected from near-by "donor" populations that have similar genetic characteristics to what the extirpated populations may have once had. As soon as the gametes from these donor populations are collected, they are transported to the streamside rearing facilities where they are hatched and reared in the water of the target river through the summer growing season. There are only a few potential donor populations left in the Lake Michigan basin that are large enough to be able to provide gametes without jeopardizing their own annual natural production and sustainability. But with continued rehabilitation of populations like the one in the Manistee River, addi-tional donor populations may eventually be available to help return lake sturgeon to more rivers around the lake.

These streamside rearing efforts represent a combined and coordinated multiagency effort that the Fish and Wildlife Service has been involved with since 2004. Lead for operation of the 5 rearing facilities comes from Marty Holtgren with the Little River Band, Ed Baker with the Michigan DNR and Brad Eggold with the Wiscon-sin DNR. Mark White and numerous volunteers from Riveredge Nature Center near Milwaukee, Wis. provide daily operational support as well as outreach and education for the rearing facility on the Milwaukee River. Brian Sloss with the University of Wisconsin - Stevens Point leads the genetic analysis and evaluation components of the project. Aaron Paquet with Northern Environmental and Tri Terra environmental consulting firms has been assisting with the design and construction of the rearing facilities. Rob Elliott with the Fish and Wildlife Service provides grant administration and financial coordination for the project. Rob also chairs the Lake Michigan Lake Sturgeon Task Group that helped initiate this project and that has developed important objectives and guideline documents that direct the projects implementation. To initiate and sustain this effort for the first five years, the Great Lakes Fishery Trust has provided over $500,000 in grant funds and the Great Lakes Fish and Wildlife Restoration Act another $30,000 in addition to the substantial direct and in-kind contributions from each of the cooperating agencies and institutions. These dedicated cooperators realize this is a long term partnership. It is anticipated that each streamside rearing facility will need to operate for at least another 20 years (a single generation for lake sturgeon), and it will be at least another 10-20 years beyond that before all the fish released will be returning on a regular basis to spawn. Because of the natural life history of this species, this work has to be based on a long-term commitment that extends far beyond the careers and lives of those people currently involved. This is a rehabilitation effort for our future, for our children's future and for the future of the environment that we all share.

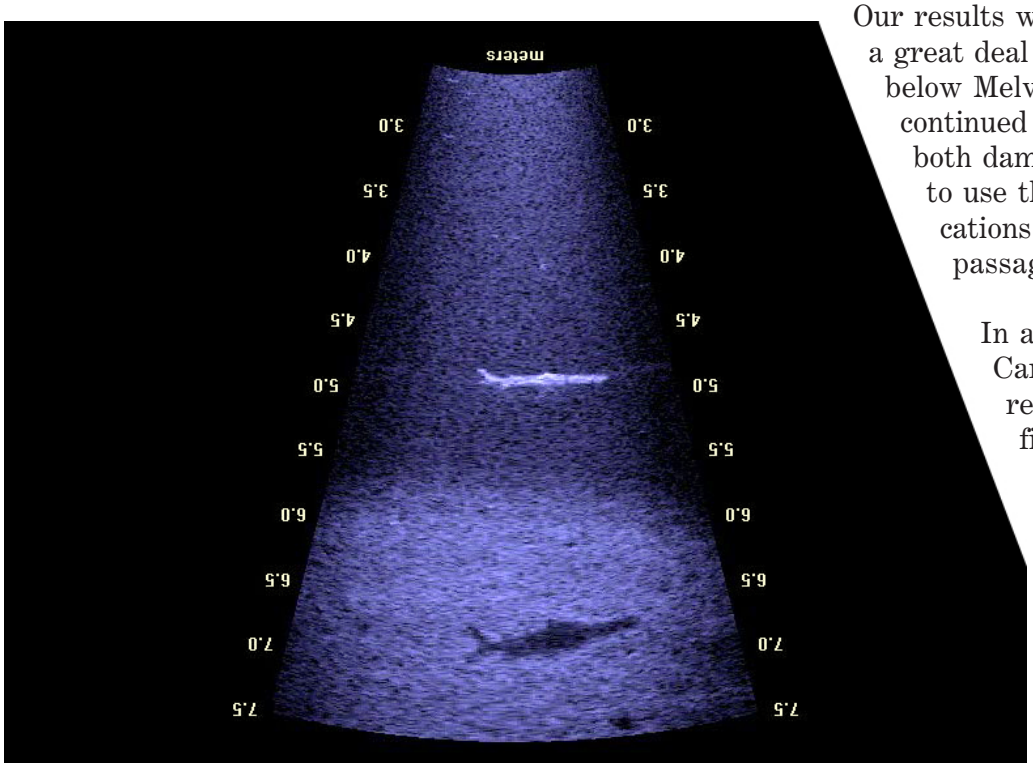
For further information about this project, contact Rob Elliott of the Green Bay FWCO at: robert_elliott@fws.gov
or visit the following web sites:
https://www.lrboi-nsn.gov/nrd/nme-sturgeon.html
http://dnr.wi.gov/fish/lakemich/LakeSturgeon.htm
http://www.michigan.gov/dnr/0,1607,7-153-10366_46403_46404-164596--,00.html
http://www.riveredge.us/

For further info about the Green Bay FWCO: http://www.fws.gov/midwest/Fisheries/library/StationFactSheets/greenbay.pdf

Fish Passage Planning and Evaluation at Upper Mississippi River Locks & Dams

BY NATE CASWELL, CARTERVILLE FWCO

A series of navigation locks and dams is used to manage water levels for navigation on the Upper Mississippi River. These dams offer occasional opportunities for fish passage, but more often than not, they act as barriers. In 2004, the U.S. Army Corps of Engineers (USACE) began studying fish passage opportunities and alternatives at navigation dams. Lock and Dam 22 near Saverton, Missouri, and Melvin Price Locks and Dam near Alton, Ill. were selected for the first two fish passage projects.



-USFWS/NateCaswell

This is a single frame sonar image of a paddlefish taken with a dual-frequency identification sonar (DIDSON) at Melvin Price Locks and Dam.

Carterville Fish and Wildlife Conservation Office (FWCO) has participated in planning and biological monitoring of these projects since 2004. From 2005 to 2007, Carterville FWCO used nets and deep-water electrofishing to identify the species composition of fish aggregations that were located with mobile hydro acoustics. Although a large amount of information concerning the fish communities at Melvin Price Locks and Dams and Lock and Dam 22 was collected, some of the fish located with hydro acoustics were difficult to capture. In addition, we still knew relatively little about the behavior of individual fish in the tail waters and how they relate to the dam. In 2008, Carterville FWCO began using a dual-frequency identification sonar (DIDSON) to continue characterizing the fish community and describe fish behavior below the locks and dams. The DIDSON uses acoustic lens technology to form acoustic images with greater detail than that found with conventional sonar, and it allowed us to record real-time depictions of fish behavior in the river with minimal or no disturbance.

Our results with the DIDSON in 2008 provided a great deal of insight into the behavior of fish below Melvin Price Locks and Dam, and we continued working with the DIDSON at both dams in 2009. We anticipate being able to use the DIDSON for a variety of applications in future evaluations of these fish passage projects.

In addition to the 2009 field work, Carterville FWCO also prepared a report summarizing the collective fish passage monitoring work completed from 2005 to 2008. Baseline fisheries data collection has been conducted with multiple approaches. In addition to the fish capture and DIDSON work completed by Carterville FWCO, Southern Illinois University, Western Illinois University and the Missouri Department of Conservation have been working collaboratively on a telemetry project to determine the effects of Upper Mississippi River locks and dams on the movement of fishes. The USACE used mobile hydro acoustics to locate fish aggregation areas and enumerate the fish below the dams, and the Illinois Natural History Survey has been working with the USACE to operate a stationary hydro acoustic system at Melvin Price to study fish movements through the auxiliary lock. This report summarized the different monitoring approaches in a single document. Results of fisheries monitoring for 2009 have been presented and monitoring options for 2010 discussed and prioritized.

For further info about the Carterville FWCO: http://www.fws.gov/midwest/Fisheries/library/StationFactSheets/carterville.pdf

Record Breaking Year for the La Crosse FHC

BY COREY PUZACH, BECKY LASEE AND ABBY PURDY, LACROSSE FHC

Fiscal year 2009 was a busy one for the La Crosse Fish Health Center (FHC). The center processed a record number of 258 cases. A case represents a specific fish species, group of fish, tissue samples, or a biologi-cal sample (virus, bacteria, or parasite) from a specific source such as a water body or hatchery. Each case is assigned a case history number and could represent anywhere from 1 to over 500 fish. La Crosse FHC receives samples from a wide variety of sources.

-USFWS/SarahBauer

Corey Puzach (top) and Lucas Purnell take fish health samples from sturgeon at Genoa National Fish Hatchery.

The first source is the National Fish Hatcheries (NFH) in the Midwest Region. These hatcheries are our most important responsibility. The center conducts health inspections at these facilities biannually. These inspections ensure hatchery fish are free of certifiable fish pathogens. Fish health responsibilities also include diagnostics, screening of ovarian fluids, testing wild or future brood stock and technical support. The NFHs in the Midwest Region include Genoa, Iron River, Pendills Creek, Sullivan Creek, Jordan River and Neosho. More than 6,000 fish were sampled in support of NFH programs.

The La Crosse FHC also works closely with many states and their propagation facilities. Some states have limited or no laboratory services for testing of fish health samples. The Center is contracted to provide laboratory services to Ohio, Wisconsin and Illinois. These states collect the samples and ship them to La Crosse. The La Crosse FHC lab processed samples from almost 3,700 fish originating from state facilities.

Many tribal hatcheries also depend on our laboratory services. These hatcheries receive an annual hatchery inspection, screening of ovarian fluids, diagnostic support, parasite identification, Viral Hemorrhagic Septicemia virus surveillance and technical support. The participating tribal hatcheries include Keweenaw Bay Indian Fish Hatchery, Grand Portage Native Fish Hatchery, Red Cliff Tribal Fish Hatchery and Lac Du Flambeau Fish Hatchery. Over 1,000 samples were processed by the La Crosse FHC in support of tribal fish hatcheries.

Additionally, more than 9,300 fish were sampled in support of the National Wild Fish Health Survey. The survey began in 1996 with the objective of gaining a better understanding of distribution of specific pathogens in the wild and which fish species are susceptible to the target pathogens. The survey depends largely on partner participation, and this year was no exception. The La Crosse FHC received assistance with fish collection, fish transport, sample collection and sample transport from ten federal, six state, six tribal and several academic institutions.

For further info about the La Crosse FHC: http://www.fws.gov/midwest/LaCrosseFishHealthCenter/

Fish Passage Feasibility for Upper Ohio River Locks and Dams

BY NATE CASWELL, CARTERVILLE FWCO

Partnerships are essential for effective fisheries conservation. Many agencies, organizations, and private individuals are involved in fisheries conservation and management, but no one can do it alone. Together, these stakeholders combine efforts and expertise to tackle challenges facing fisheries conservation. The success of these partnerships will depend on strong, two-way communications and accountability.

Navigation dams have affected the movement and distribution of fish and mussels in large rivers throughout North America. These dams are designed to provide consistent depths for a navigation channel while allowing for variable flows. Some navigation dams provide limited opportunities for fish passage under certain flow conditions, but many dams offer few or no passage opportunities in a given year. All of the main stem Ohio River dams create at least partial obstacles to fish movements. Although opportunities for upriver fish passage on the Ohio River vary considerably between dams, studies have shown that those opportunities generally decrease as you move upstream.

-USFWS

Fish passage feasibility is being studied at these three locks and dams on the Upper Ohio River: Emsworth (top), Dashields (center) and Montgomery (bottom).

At least 16 fish species including shovelnose sturgeon, paddlefish and skipjack herring have been extirpated from the upper reaches of the Ohio River. Although heavy pollution was believed to be the primary factor in the decline of these species in this portion of the river, the navigation dams likely played a role in their decline and continued absence.

Emsworth, Dashields and Montgomery Locks and Dams are the three uppermost dams on the main stem of the Ohio River, just downstream of the confluence of the Allegheny and Monongahela rivers at Pittsburgh, Penn. These three dams are the oldest dams in the system, but due to their proximity to the industrial center near Pittsburgh, they also have a great deal of barge traffic. The locks associated with these dams currently have problems with structural integrity and limited barge capacity, so the U.S. Army Corps of Engineers (USACE) Pittsburgh District has undertaken the Upper Ohio River Navigation Study. The purposes of the Navigation Study are to examine lock modernization alternatives for these locks and dams and work toward ecosystem restoration on the Upper Ohio River. Ecosystem restoration may provide an opportunity to include fish passage at these dams.

In anticipation of lock modernization at the Emsworth, Dashields and Montgomery Locks and Dams, the USACE enlisted individuals from various stakeholder groups to form the Upper Ohio Interagency Working Group (UOIWG). This group will help the USACE determine the best way to fulfill the purposes of the Upper Ohio River Navigation Study. Because of our past experience working with the USACE on the Ohio River Mainstem System Study and Upper Mississippi River fish passage projects, Carterville Fish and Wildlife Conservation Office (FWCO) was asked to help the work group assess the feasibility of creating upstream fish passage opportunities as part of lock modernization projects at the locks and dams.

Since March 2008, Carterville FWCO has worked with the group to evaluate a number of alternatives for fish passage at the locks and dams. In July 2008, Nate Caswell and Rob Simmonds facilitated a meeting of the work group to develop goals and objectives for

fish passage, discuss project constraints and identify realistic alternatives including nature-like and technical fishways, as well as non-structural measures such as assisted fish lockage. Nate Caswell worked with group members to develop a list of species that will be used to evaluate different fish passage alternatives. A second meeting was held in September 2009 with the fisheries experts on the working group. This meeting continued the evaluation process based on a given alternative's potential effectiveness in providing passage opportunities. Carterville FWCO also enlisted the help of the Fish and Wildlife Service's fish passage engineers from the Northeast Region. Engineer Ben Rizzo worked with Carterville FWCO and the work group to develop conceptual designs for fish passage alternatives, as well as technical designs for selected alternatives.

The Draft Upper Ohio Navigation Study Fish Passage Feasibility Study Report was submitted to the USACE Pittsburgh District in October 2009. The report included discussions of viable alternatives for the three locks and dams, technical fishway designs, and preliminary recommendations. Carterville FWCO will continue to work with the USACE and the work group to finalize the Upper Ohio River Fish Passage Feasibility Study.

For further info about the Carterville FWCO: http://www.fws.gov/midwest/Fisheries/library/StationFactSheets/carterville.pdf

Council of Lake Committees updated on the Mass Marking Program

BY CHARLES BRONTE, GREEN BAY FWCO

Fisheries program representatives provided an update on the mass marking program to the Council of Lake Committees (CLC) at the Great Lakes Fishery Commission biannual meeting in Romulus, Mich. The mass marking program is an initiative of the CLC to coded-wire tag and fin clip all salmon and trout stocked into the Great Lakes from all state, federal and tribal hatcheries to evaluate their performance and impact to the fisheries and ecosystem.

In a presentation by program supervisor Aaron Woldt, the CLC was informed about the $3.23 million dollars received by the Fish and Wildlife Service in Congressional appropriations in fiscal years 2008 and 2009 for equipment and electrical upgrades at federal and state hatcheries. To date, one automated and one manual tagging trailer have been purchased, and electrical upgrades have been completed or contracted out at Jordan River, Pendills Creek and Iron River National Fish Hatcheries (NFH), and at the Marquette State Fish Hatchery (SFH). The remaining $1.5 million will be used to purchase another automated tagging trailer and further upgrades at SFHs. For 2010, Congress is expected to provide $1 million to the Fish and Wildlife Service to begin operations. If received, this funding will be used primarily to tag Chinook salmon at state hatcheries on lakes Michigan and Ontario, and to tag all lake trout stocked into lakes Huron and Michigan.

The CLC also approved the terms of reference for the Great Lakes Regional Marking Committee. The committee is made up of hatchery and field biologists from the states and tribes and will serve a liaison role for the Fish and Wildlife Service. The Fish and Wildlife Service has also been working with the tagging equipment vendor and Michigan DNR to improve the tagging performance of lake trout in the automated marking and tagging trailers. The automated trailer was at the Marquette SFH this summer to coded-wire tag 300,000 lake trout for lakes Michigan and Huron, and then taken to Iron River and Jordan River NFHs for additional production runs.

When consistent base funding is achieved, the Fish and Wildlife Service plans to establish the Great Lakes Mass Marking Laboratory and co-locate it at the Green Bay Fish and Wildlife Conservation Office (FWCO) with a satellite facility in Michigan.

For further info about the Green Bay FWCO: http://www.fws.gov/midwest/Fisheries/library/StationFactSheets/greenbay.pdf

Friends of the Jordan River National Fish Hatchery "Being Friendly"

BY TIM SMIGIELSKI, JORDAN RIVER NFH

The *Friends of the Jordan River National Fish Hatchery* sponsored an outreach event in October. The day featured a kids pumpkin patch, pumpkin painting and hay ride tours on the hatchery grounds. Nearly 200 visitors enjoyed the day while learning about lake trout rehabilitation, hatchery operations and Friends group membership. The visitors enjoyed cider, hot chocolate and donuts while they took in the beauty of the Jordan River Valley. The turn-out was fantastic. The friends engaged all of the visitors and landed three new Friends group members.

-USFWS

Picking a pumpkin was hard work at the Fall Color Fest held at the Jordan River National Fish Hatchery.

For further info about the Jordan River NFH: http://www.fws.gov/midwest/JordanRiver/

Exterior Dike Construction Project at Genoa NFH

BY DOUG ALOISI, GENOA NFH

Badger Excavating of Westby, Wisc. was recently awarded the exterior dike remediation project at the Genoa National Fish Hatchery (NFH). The hatchery is located adjacent to the Mississippi and Bad Axe rivers in southwest Wisconsin and relies on exterior dikes to keep out river water during spring river rises and flash floods in the Bad Axe River drainage. Severe flooding in the summers of 2007 and 2008 eroded the hatchery's main dike protecting the facility from flood waters from both river systems. Floods that compromised this dike in 1993 and 2001 caused extensive damage and wiped out the facility's entire production in the outside rearing ponds for those years. Inundating floodwaters also increase the chance of invasive species such as the zebra mussel being introduced to the hatchery's pond systems. Emerging fish pathogens are also a concern if surface waters enter hatchery systems.

The station currently uses only well water as the hatchery water supply to protect both the station's fish populations and the fish populations of the waters that are stocked. Flood monies were made available through the Congressional appropriation process and involved remediation of several midwestern and southern Fish and Wildlife Service Refuges and Genoa NFH to repair damages due to recent flooding events. The project is complete and will be in place before rising river levels usher in a new spring fish production season.

-USFWS

This dike rehabilitation project at the Genoa National Fish Hatchery will repair past flood damage.

For further info about the Genoa NFH: http://www.fws.gov/midwest/genoa/

Rainbow Trout are Food and Fun at Genoa NFH

BY JENNY BAILEY, GENOA NFH

The Fisheries Program maintains and implements a comprehensive set of tools and activities to conserve and manage self-sustaining populations of native fish and other aquatic resources. These tools and activities are linked to management and recovery plans that help achieve restoration and recovery goals, provide recreational benefits, and address Federal trust responsibilities. Sound science, effective partnerships, and careful planning and evaluation are integral to conservation and management efforts.

This month, over 100,000 rainbow trout fry hatched at Genoa National Fish Hatchery (NFH). The eggs were the first of 300,000 to be received from Ennis NFH to support conservation programs and sport and recreational fishing opportunities provided by Genoa NFH and partners in the upper Midwest.

Rainbow trout are a certified disease-free source of forage for fish species used in threatened and endangered freshwater mussel recovery. This is very important during winter months when fish are held in over-wintering ponds at Genoa NFH and need a source of nutrition that can be stocked right into the pond with them. Rainbow trout hatchlings are free of diseases that wild-caught forage species may carry. Rainbows are also easy to culture and can adapt to the cold water conditions of an overwintering pond.

Rainbow trout will also be stocked out at larger sizes for recreational fishing at Camp Decorah Boy Scout Camp, Fort McCoy Army Base, some tribal and state waters, the Tomah Veteran Administration Hospital's fishing pond, various other area partners, and Genoa National Fish Hatchery's fishing ponds. Genoa NFH supports recreational fishing as a healthy way to enjoy the outdoors, improve emotional and physical fitness, and strengthen family ties by hosting an annual Kids Ice Fishing Derby in February, a Kids Fishing Day in May and other specially scheduled fishing events. These events have helped hundreds of families get outdoors and learn about fishing as a lifetime sport. Each Kids Fishing Day event has been sponsored by the *Friends of the Upper Mississippi Fisheries Services*, and has been immensely popular with surrounding communities and families. This month, 200 (15 inch) rainbow trout were stocked into the ice fishing pond in readiness for the 2010 Kids Ice Fishing Derby.

-USFWS

Rainbow trout eggs are hatched in jars at the Genoa National Fish Hatchery.

In 2009, Dairyland Power donated a handicapped accessible fishing dock to help provide fishing opportunities for people who may not otherwise have access to fishing due to mobility impairments. This fishing dock has helped many people gain access to fishing as a recreational sport. In 2010, Genoa NFH has plans to renovate the pond to increase its capacity to be used as a fishing pond. The pond will be dredged and covered with a gravel bottom. This will improve water quality tremendously so that the pond may support a larger and more diverse population of species.

By using rainbow trout as a multi-purpose resource, Genoa is able to provide recreational and sport fishing opportunities while supporting endangered species recovery and other conservation programs throughout the Midwest Region. Hooray for rainbows at Genoa NFH!

For further info about the Genoa NFH: http://www.fws.gov/midwest/genoa/

Sterilized Male Sea Lampreys Released in the St. Marys River

BY LISA WALTER, MARQUETTE BIOLOGICAL STATION

The Great Lakes Fishery Commission Sea Lamprey Management Program, administered by the Fish and Wildlife Service and Department of Fisheries and Oceans Canada, control sea lampreys on the St. Marys River with an integrated pest management strategy. One component of the strategy is the sterile-male-release technique, an alternative control method that takes advantage of trapped male spawning-phase lampreys by sterilizing them and releasing them into the river to spawn with normal females. The sterilized males reduce reproduction by mating with females and producing eggs that aren't viable.

-USFWS

Pictured is the St. Marys River that conects Lake Superior to the lower Great Lakes. An integrated sea lamprey control strategy is used on this river since it is 20 times larger than any other river treated for invasive sea lampreys.

Approximately 25,000 male sea lampreys are collected each spring from 25 traps throughout the Great Lakes and are delivered to a sterilization facility near Millersburg, Mich. Lampreys are sterilized using the chemosterilant bisazir. The compound sterilizes lampreys without affecting the lampreys' ability to attract females and mate normally. Bisazir sterilizes the lampreys quickly and does not remain in the tissues after 48 hours. Fish and Wildlife Service personnel handle each lamprey individually, weighing them and positioning them into an auto-injector that administers the appropriate bisazir dosage based on weight. Extensive personal protective equipment is worn by staff to avoid exposure to the toxin, and all operations are performed in an isolated facility.

A total of 19,212 male sea lampreys were sterilized and released into the St. Marys River during 2009. Assessment traps removed 5,630 sea lampreys from the river, reducing the St. Marys River population by an estimated 42%. The release of sterile males combined with the removal of lampreys by traps reduced the theoretical number of effective spawning pairs in the river from about 5,088 to 643 during 2009, a theoretical reduction of about 87%.

The integrated sea lamprey control strategy has successfully reduced the population of larval sea lampreys in the St. Marys River, and the average spawning-phase abundance in Lake Huron during 2001-2009 is 36% lower than the spawning-phase abundance during 1992-2000. Efforts continue towards increasing trapping effectiveness and providing as many males as possible for sterilization and release.

The St. Marys River is an international border that separates the State of Michigan from the Province of Ontario. The river is infested with invasive sea lampreys but conventional control techniques are expensive and somewhat ineffective on the river because of its size. The St. Marys River is over 20 times larger than any other river treated for sea lampreys. The current control strategy for the river includes spot treating areas of high larval lamprey abundance with granular bayluscide (a bottom toxicant), trapping spawning-phase sea lampreys, and sterilizing male sea lampreys and releasing them into the river to compete with untreated males.

Aquatic Invasive Species

Aquatic invasive species are one of the most significant threats to fish and wildlife and their habitats. Local and regional economies are severely affected with control costs exceeding $123 billion annually. The Fisheries Program has focused its efforts on preventing introductions of new aquatic invasive species, detecting and monitoring new and established invasives, controlling established invasives, providing coordination and technical assistance to organizations that respond to invasive species problems, and developing comprehensive, integrated plans to fight aquatic invasive species.

For further info about the Marquette Biological Station: http://www.fws.gov/midwest/marquette/

Fisheries Management on Military Installations

BY BRAD ROGERS, CARTERVILLE FWCO

Carterville Fish and Wildlife Conservation Office (FWCO) is an active partner in the management of fishery resources on two military installations. Scott Air Force Base (AFB) in Belleville, Ill. and Naval Support Activity Crane (NSA Crane) in Crane, Ind. rely on staff from Carterville to help maintain quality fishing opportunities for military and Department of Defense personnel and their families.

-USFWS/BradRogers

John Zeigler collects biological data on fish collected by night time electrofishing on Lake Greenwood which is located at the Naval Support Activity Crane.

Scott AFB is a 2,560 acre facility that has two recreational fishing lakes. Scott Lake is a 7 acre impoundment with a maximum depth of 15 feet and an average depth of 2.42 feet. The lake provides 5,100 feet of shoreline habitat that includes two small islands. This lake not only provides ample fishing opportunities for largemouth bass, bluegill, redear and channel catfish but also a scenic and interesting place for canoeing and kayaking. The installation of pond aerators in recent years has immensely improved the fishing and boating opportunities by reducing the aquatic vegetation in the lake.

Cardinal Lake is a smaller 3.5 acre lake with a maximum depth of 12 feet. The lake has steep banks and little aquatic habitat. Its lack of vegetation and impeccably clear water make it a very aesthetically pleasing lake. The lake provides excellent bass fishing opportunities for such a small impoundment with the average fish measuring 15 inches.

Carterville FWCO staff Sam Finney and Brad Rogers performed electrofishing surveys at Scott and Cardinal lakes last May. The surveys consisted of shocking the entire shoreline of both lakes, recording lengths and weights from captured fish, and taking a sub-sample of bass and bluegill for age and growth analyses. Back in the lab at Carterville, Brad Rogers and John Zeigler extracted otoliths from the sample of fish and aged them by submerging in glycerin and counting annuli under a compound microscope. A management report detailing the findings of the survey, age struc-

As the population in the United States continues to grow, the potential for adverse impacts on aquatic resources, including habitat will increase. At the same time, demands for responsible, quality recreational fishing experiences will also increase. The Service has a long tradition of providing opportunities for public enjoyment of aquatic resources through recreational fishing, habitat restoration, and education programs and through mitigating impacts of Federal water projects. The Service also recognizes that some aquatic habitats have been irreversibly altered by human activity (i.e. - dam building). To compensate for these significant changes in habitat and lost fishing opportunities, managers often introduce non-native species when native species can no longer survive in the altered habitat.

-USFWS/JohnZeigler

Brad Rogers extracts otoliths from a largemouth bass for age analyses.

ture of the fish populations, and our recommendations for future management was prepared and submitted to Scott AFB natural resource manager Cindy Nolan in September 2009.

NSA Crane covers approximately 100 square miles and provides a plethora of outdoor activities. The majority of the area is heavily wooded with several small ponds and a large 810 acre lake (Lake Greenwood). Lake Greenwood is host to multiple bass fishing tournaments each year and provides fishing opportunities for several other species including bluegill, crappie, walleye and channel catfish. Last May, John Zeigler and Brad Rogers performed a night electrofishing survey at four preselected sites on Lake Greenwood. Seventeen species of fish were captured during the survey and a sub-sample of largemouth bass and bluegill were removed for age and growth analyses. Captain's pond, one of the smaller ponds on the base, was also surveyed the following morning. A management report was completed and submitted to Crane natural resource manager Steve Andrews in September 2009. The results of the survey and analysis of the data showed that management actions at Crane are improving the quality of the fishery on Lake Greenwood and the smaller ponds on the base. Results of our actions at Crane are apparent in the bass tournament results as teams continue to turn in increasingly larger limits of bass each year.

For further info about the Carterville FWCO: http://www.fws.gov/midwest/Fisheries/library/StationFactSheets/carterville.pdf

Lake Sturgeon enhance Outdoor Education for New Yorkers

BY TONY BRADY, GENOA NFH

Genoa National Fish Hatchery (NFH) is a strong supporter of environmental and outdoor education programs. The hatchery staff participates in several nature programs each year.

In October 2009, Genoa NFH was able to reach beyond regional boundaries to assist multiple nature programs in the State of New York. The Greensburg Nature Center contacted Genoa to secure juvenile lake sturgeon to be used in a series of nature programs in suburb New York City. The first program was "A Day in the Life of the Hudson River," where biologist Travis Brady spent the day with 70 children telling them about the fish population and diversity in the Hudson River. After the Day in the Life program, the sturgeon spent the following three weeks rotating between three elementary class rooms, where over 100 students have been exposed to the life of sturgeon. The sturgeon are destined to find a home in an aquarium at the Greensburg Nature Center where over 100,000 people and 1,500 school groups visit annually. Visitors will be able to see and learn about this dinosaur of the Midwest.

Lake sturgeon are not native to the Hudson River. They were used for these outreach efforts due to the unavailability of native Atlantic sturgeon.

-USFWS

A seine haul is pulled from the Hudson River to show children some of the resident fish species.

For further info about the Genoa NFH: http://www.fws.gov/midwest/genoa/

Lake Sturgeon Population on the Rise in White Earth Lake

BY SCOTT YESS, LA CROSSE FWCO

A lake sturgeon success story is unfolding on the White Earth Reservation. In the mid-1900s, lake sturgeon disappeared on the Reservation and were lost from the entire Red River watershed. Their populations were decimated as a result of habitat alterations, dam construction and pollution. Due to efforts of the White Earth Department of Natural Resources (DNR), Rainy River First Nations and Fish and Wildlife Service, these majestic fish are making a come-back on the Reservation. Great recognition should go to Randy Zortman and his staff at the White Earth DNR and Joe Hunter and his staff at Rainy River First Nations who have worked with our three fishery stations - La Crosse Fish and Wildlife Conservation Office (FWCO), Genoa National Fish Hatchery and La Crosse Fish Health Center.

-USFWS/ScottYess

Jerald Roberts of the White Earth Department of Natural Resources holds a healthy lake strurgeon captured from White Earth Lake.

A lake sturgeon management plan for the White Earth Reservation was completed in 1998, and after nine years of successful stocking, survival and growth have been documented. Results from the October 2009 survey indicate that many lake sturgeon are surviving and growth and condition are good. The population is increasing with 45 lake sturgeon collected in two days of netting. During a similar effort in 2003, only two lake sturgeon were captured. Several year classes were represented with lengths ranging from 6 to 34 inches (8.5 lbs), and all fish were in good condition. The management plan calls for one more year of stocking followed by an evaluation of the stocking recommendations.

Conserving this Nation's fish and other aquatic resources cannot be successful without the partnership of Tribes; they manage or influence some of the most important aquatic habitats both on and off reservations. In addition, the Federal government and the Service have distinct and unique obligations toward Tribes based on trust responsibility, treaty provisions, and statutory mandates. The Fisheries Program plays an important role in providing help and support to Tribes as they exercise their sovereignty in the management of their fish and wildlife resources on more than 55 million acres of Federal Indian trust land and in treaty reserved areas.

-USFWS

(Lt. to Rt.) Jerald Roberts, Randy Zortman and Curtis Uran prepare to collect biological information from this lake sturgeon captured in White Earth Lake.

For further info about the La Crosse FWCO: http://www.fws.gov/midwest/lacrossefisheries/

Science and technology form the foundation of successful fish and aquatic resource conservation and are used to structure and implement monitoring and evaluation programs that are critical to determine the success of management actions. The Service is committed to following established principles of sound science.

La Crosse FHC partners with UW-La Crosse to Identify Potentially Novel Viruses

BY ERIC LEIS, LA CROSSE FHC

The La Crosse Fish Health Center (FHC) occasionally isolates viruses that are not considered certifiable. Sometimes these viruses have been previously studied; however, some of them may be new, or novel. Currently, there are two viruses which were isolated by the La Crosse FHC that appear to be previously undescribed. One of them is a virus which was isolated from largemouth bass from the Mississippi River. In the laboratory, the virus infected BF-2 (bluegill fry) cells. Another potentially undescribed virus is a muskellunge virus that was isolated from Ohio. This virus infected epithelioma papulosum cyprinid (EPC) cells. Both of these viruses have been tested via Polymerase Chain Reaction (PCR) to ensure that they are not any of the certifiable viruses for which we routinely screen. Since novel viruses are not very common, they offer excellent thesis research opportunities. Luckily, Kelly Rock, a student from the Microbiology Department at the University of Wisconsin-La Crosse is willing to take on this challenge and identify these potentially new viruses.

For further info about the La Crosse FHC: http://www.fws.gov/midwest/LaCrosseFishHealthCenter/

Genetic Differences between Lean and Siscowet Lake Trout in Lake Superior

BY CHARLES BRONTE, GREEN BAY FWCO

Biologist Chuck Bronte of the Green Bay Fish and Wildlife Conservation Office (FWCO), working with an international team of university, state and federal researchers had a paper published on a collaborative research project on lake trout in Lake Superior. Wild lean and siscowet lake trout from Lake Superior differ in the shape and size of the head, size of the fins, location and size of the eyes, tail fin shape and fat content.

To investigate the basis for these differences, lean and siscowet lake trout, derived from wild populations in Lake Superior, were reared under identical environmental conditions for 2.5 years. Fish were analyzed for growth, body shape, fat content and other differences. The results demonstrate that differences in these traits persist in these two forms when reared under identical environmental conditions and strongly suggests that these differences are genetic and not from environmental sources. Some genes involved with immunity were expressed at significantly higher levels in lean lake trout compared to siscowets, which would be adaptive in defending against pathogens. Lean lake trout may be more susceptible than siscowet to pathogen exposure because of their shallower and more near shore distribution. The paper will be published during November in the "Journal of Molecular Ecology" and was senior-authored by Frederick Goetz, University of Wisconsin-Milwaukee. Other agencies and institutions involved with the project were the Michigan Department of Natural Resources, University of Washington-Seattle, National Marine Fisheries Service and Universitat Autonoma de Barcelona, Spain.

For further info about the Green Bay FWCO: http://www.fws.gov/midwest/Fisheries/library/StationFactSheets/greenbay.pdf

A Big Stir with a New Koch Ring Cleaner

BY JAMES LUOMA, GENOA NFH

Just in time for the holiday season, the staff at the Genoa National Fish Hatchery (NFH) created quite a stir with a big mixer. While neither a large social gathering nor your mom's pastry blender, the mixer designed and built by the Genoa NFH staff stirs up a 4 foot diameter tank filled with plastic Koch® rings in a mild acid solution.

-USFWS

Genoa National Fish Hatchery staff developed a system to clean Koch rings. Koch rings are used to condition well water used for fish culture.

For decades, fish hatcheries have passed well water through pipes of various sizes filled with Koch rings just before it enters fish tanks in order to remove excess nitrogen and to increase oxygen levels. Water coming from wells is often supersaturated in nitrogen and low in dissolved oxygen. All fish, especially cold water species like rainbow trout, require ample amounts of oxygen to thrive and survive. Additionally, supersaturated nitrogen can cause gas bubble disease, which is similar to the bends in scuba divers. Excess nitrogen can develop into many small to large bubbles, called embolisms, under the skin, eyes and in the gills which can be fatal. When well water is allowed to flow through a packed column, which is essentially a larger open pipe filled with Koch rings and suspended above the tank, it breaks up the stream of water and allows the excess nitrogen and low oxygen to come into equilibrium with the atmosphere. The packed column is a low tech, but highly effective means of conditioning water so it is acceptable for fish culture use.

Over time, the water deposits dissolved minerals such as manganese, calcium and iron onto the rings which reduces their efficiency. In order to maintain optimal conditions, the rings are removed from the columns and cleaned on a regular basis. The Genoa NFH has found that a citric acid solution is a safe and effective means of cleaning the rings; however, the solution and rings must be agitated in order to be effectively cleaned. The corrosive nature of the acid solution has contributed to the demise of many pumps used for agitation, prompting a need to design a better cleaning system.

-USFWS

Koch rings before (lt.) and after cleaning.

The Genoa NFH staff designed and the talented maintenance crew constructed a Koch ring cleaner which utilizes a motor-driven stainless steel paddle to agitate the rings and acid solution. This design eliminates the need for a chemical pump, thereby pump failure is no longer an issue. This new cleaner was recently put into action, and the unit worked exceeding well at performing the job it was intended to do. It is anticipated that the Genoa NFH will be mixing it up for years to come with the new unit.

For further info about the Genoa NFH: http://www.fws.gov/midwest/genoa/

Habitat Monitoring on the Upper Miss

BY SCOTT YESS, LA CROSSE FWCO

Loss and alteration of aquatic habitats are principal factors in the decline of native fish and other aquatic resources and the loss of biodiversity. Seventy percent of the Nation's rivers have altered flows, and 50 percent of waterways fail to meet minimum biological criteria.

Staff from La Crosse Fish and Wildlife Conservation Office (FWCO), Genoa National Fish Hatchery and the Upper Mississippi River National Wildlife and Fish Refuge along with volunteers assisted Jeff Janvrin from the Wisconsin Department of Natural Resources on a Mississippi River habitat study. The goal of the study is to document pre- and post project fishery status concerning two habitat projects in Pool 9. Boat electrofishing was the method used to collect fish at sites that were randomly chosen. The fish were identified to species and their total lengths were measured. The fishery data collected will be used to evaluate the Capoli Slough (pre-project) and Pool 9 Islands (post-project) habitat projects.

The Capoli Slough project would restore and stabilize islands to protect the area from large wind fetches. Breached areas would be stabilized using rock sills, and partial closing structures would be constructed to reduce the effect of main channel flows. Material to restore the island complex would be dredged from the immediate vicinity to provide additional deep water fish habitat benefits. The project would provide both fish and wildlife benefits by creating a "shadow" effect behind and downstream of the islands. About 700 acres of backwater habitat would be directly affected.

The Pool 9 Islands project was completed in 1995 and involved the construction of a C-shaped rock fill island complex. The island complex parallels the main channel for a half mile and extends into the backwater about a quarter of a mile at the upper and lower ends. The island complex eliminates direct sediment laden flows through 140 acres of backwater during normal river flow and improves water clarity for the growth of aquatic plants in 180 acres of the backwater. In addition, dredging in the backwater and the addition of rock substrate to the island increased habitat diversity for fish.

For further info about the La Crosse FWCO: http://www.fws.gov/midwest/lacrossefisheries/

Ohio River Basin Fish Habitat Partnership – Fall Update

BY ROB SIMMONDS, CARTERVILLE FWCO

October and November were exciting months to be a part of the Ohio River Basin Fish Habitat Partnership (ORBFHP) as interim coordinator. It started with an opportunity to meet with and present our partnership to board members of the Ohio Chapter of The Nature Conservancy (TNC). They were excited to hear about our efforts and to find out what they can do to help. We have already benefitted greatly from the Ohio Chapter through the efforts of Andy Dickerson (formerly with TNC) and John Stark who have led our planning efforts, with help from other TNC staff in Ohio and elsewhere.

October was also the month when we met with the National Fish Habitat Action Plan (NFHAP) board and were accepted as a full NFHAP fish habitat partnership! They were very complementary of our efforts and direction. That paved the way to our opportunity to submit projects for NFHAP funding. We solicited proposals for a short two week period, due in large part to the timing of being accepted and learning the level of funding to set aside for ORBFHP projects. After much discussion on projects, including seeking additional projects, the ORBFHP Steering and Coordination Committee arrived at a list of projects that were forwarded for consideration by the NFHAP Board and Fish and Wildlife Service. Projects include two dam removals on the Eel River in Indiana, a feasibility study for removal of West Milton Dam in Ohio, and a pilot study to determine the feasibility of completing a GIS-based aquatic weed survey.

Finally, myself and other ORBFHP members participated in the Ohio River Basin Water Resources Summit to help advance an effort to take a more collaborative and proactive approach to addressing the suite of resource, economic, infrastructure and other issues of importance to the people of the Ohio River basin. With an exciting end to this year, I look forward to a productive start to next year!

For further info about the Carterville FWCO: http://www.fws.gov/midwest/Fisheries/library/StationFactSheets/carterville.pdf

Youth Jobs Training Project a Great Success at Jordan River NFH

BY TIM SMIGIELSKI, JORDAN RIVER NFH

In partnership with the Michigan Department of Labor and Economic Growth (MDLEG) and the Charlevoix-Emmet Intermediate School District, a collaborative project to train young people for the work place was completed this summer at Jordan River National Fish Hatchery (NFH). Nine special education services students worked at the hatchery on various projects while learning the fundamentals of good work ethics. Qualities such as punctuality, organization, dedication and completing the task were emphasized. The students worked together and independently, performing duties such as grounds maintenance, facility maintenance, fish culture and hatchery operations, office tasks and custodial work. The students were very motivated about working at the hatchery and with the staff.

-USFWS

Youth participate in the youth work experience program at the Jordan River National Fish Hatchery, bugs or no bugs!

Each group of three students was overseen by a job coach from the MDLEG program. The hatchery staff developed the work duties and identified the projects and the components. Two hatchery volunteers assisted in coordinating the work of the job coaches and students. Kelly Rhodes, career preparation specialist who job coached this summer said that she loves the hatchery setting. Kelly explained that, "The supportive hatchery staff, caring volunteers and diversity of work activities and experiences make the fish hatchery an attractive and beneficial environment for the students." Kelly also said that "The skills development for future employment and life skills for independence are important for these students to reach their potential." She went on to explain that there are six career pathways introduced to the students. There are many students interested in the outdoor and environmental career pathway. Special education student Bill Curtis who worked at the hatchery explained, "The work was not just playing with fish, which is what I wanted to do. There is lot of work that is done at the hatchery that has nothing to do directly with the fish, but it all is important." The partners in this project are thrilled with the outcome and excited for the future, especially in light of the hatchery emphasis on youth in conservation careers and youth conservation education programs at Jordan River NFH.

For further info about the Jordan River NFH: http://www.fws.gov/midwest/JordanRiver/

The Fisheries Program relies on a broad range of professionals to accomplish its mission: biologists, managers, administrators, clerks, animal caretakers, and maintenance workers. Without their skills and dedication, the Fisheries Program cannot succeed. Employees must be trained, equipped and supported in order to perform their jobs safely, often under demanding environmental conditions, and to keep current with the constantly expanding science of fish and aquatic resource management and conservation.

New Employee for the Day

BY ERIC LEIS, LA CROSSE FHC

On November 12th, a student from West Salem Middle School showed up for work at the La Crosse Fish Health Center (FHC). The student was participating in a job shadowing program at the middle school, and in the morning the student 'shadowed' biologist Eric Leis around the labs. The young student had many questions about the labs and what a regular day was like for a person working in fish health. He was given a tour at the La Crosse FHC and information about the job duties of employees in the labs. He was very enthusiastic and was most interested in the different types of parasites. He really enjoyed looking at them through the microscope. Hopefully we will see this young student in the fish health field sometime in the future.

For further info about the La Crosse FHC: http://www.fws.gov/midwest/LaCrosseFishHealthCenter/

Volunteers Return to the Jordan River NFH

BY TIM SMIGIELSKI, JORDAN RIVER NFH

Chuck and Nancy Proper returned this spring to volunteer at the Jordan River National Fish Hatchery (NFH). Their efforts in volunteering here last year were very much appreciated, and we were very happy to have them back for another summer. Nancy has taken a leading role in working with the Michigan Rehabilitation Services (MRS) Program which brings high school students to various workplaces in order to develop career skills. These students are under the direct supervision of a MRS Job coach, and Nancy works with both the students and their supervisor to ensure they have meaningful work to do here. They perform routine custodial tasks as well as work on special projects, such as assisting with installing a pipeline to deliver liquid oxygen to our indoor raceways.

They also rebuilt, repaired and stained picnic tables for use in our visitor picnic pavilion. Our participation in this program has been very fruitful, and Nancy's efforts have made our participation less time consuming for our busy full time staff and have maximized the benefit to both the hatchery and the students. The MRS is funded under the Michigan Department of Energy, Labor & Economic Growth. Chuck is a retired UPS truck driver who is extremely knowledgeable about mechanical and electrical components. He recently rebuilt over two dozen aerators for use in our fish distribution truck tanks. Many of these expensive units were not in working order, and Chuck was able to salvage good parts from some to swap for bad parts on others, saving our station an investment in new aerators and components. Chuck also worked with the MRS students to install the oxygen pipeline and redo picnic tables and build a knee wall for our pavilion to exclude runoff and dirt from the cement floor. When not working on special projects, Chuck enjoys mowing the lawns to keep our grounds looking presentable for the visiting public.

Both Chuck and Nancy have been active in public outreach. Nancy has helped coordinate events and has provided many visitor tours. Both worked at our booth at the Charlevoix/Emmet County Fair in Petoskey, Mich. Not only have Chuck and Nancy volunteered here, but they have also volunteered in North Dakota at the Garrison Dam NFH. Their work and dedication demonstrate a strong commitment to natural resources. The Fisheries program of the Fish and Wildlife Service is very fortunate to have volunteers like the Proper's. They have our gratitude and respect, and we hope to have them back again next year.

-USFWS

Nancy and Chuck Proper are dedicated volunteers at the Jordan River National Fish Hatchery.

For further info about the Jordan River NFH: http://www.fws.gov/midwest/JordanRiver/

Congressional Actions

S. 1248 (pcs) To provide for the conservation and development of water and related resources, to authorize the Secretary of the Army to construct various projects for improvements to rivers and harbors of the United States, and for other purposes. [Placed on Calendar Senate]

H.R. 1495 (eas) [Engrossed Amendment Senate]

H.R. 767 (ih) To protect, conserve, and restore native fish, wildlife, and their natural habitats at national wildlife refuges through cooperative, incentive-based grants to control, mitigate, and eradicate harmful nonnative species, and for other purposes. [Introduced in House]

H.R. 1533 (ih) To provide for the establishment of a national mercury monitoring program. [Introduced in House]

S. 843 (is) To provide for the establishment of a national mercury monitoring program. [Introduced in Senate]

S.J.Res. 17 (is) Directing the United States to initiate international discussions and take necessary steps with other Nations to negotiate an agreement for managing migratory and transboundary fish stocks in the Arctic Ocean. [Introduced in Senate]

H.R. 1495 (eh) To provide for the conservation and development of water and related resources, to authorize the Secretary of the Army to construct various projects for improvements to rivers and harbors of the United States, and for other purposes. [Engrossed in House]

H.R. 1495 (pcs) To provide for the conservation and development of water and related resources, to authorize the Secretary of the Army to construct various projects for improvements to rivers and harbors of the United States, and for other purposes. [Placed on Calendar Senate]

H.R. 3227 (ih) To direct the Secretary of the Interior to continue stocking fish in certain lakes in the North Cascades National Park, Ross Lake National Recreation Area, and Lake Chelan National Recreation Area. [Introduced in House]

H.R. 1495 (ih) To provide for the conservation and development of water and related resources, to authorize the Secretary of the Army to construct various projects for improvements to rivers and harbors of the United States, and for other purposes. [Introduced in House]

H.R. 1495 (rh) To provide for the conservation and development of water and related resources, to authorize the Secretary of the Army to construct various projects for improvements to rivers and harbors of the United States, and for other purposes. [Reported in House]

S. 1766 (is) To reduce greenhouse gas emissions from the production and use of energy, and for other purposes. [Introduced in Senate]

H.R. 2643 (rh) Making appropriations for the Department of the Interior, environment, and related agencies for the fiscal year ending September 30, 2008, and for other purposes. [Reported in House]

H.R. 2643 (eh) Making appropriations for the Department of the Interior, environment, and related agencies for the fiscal year ending September 30, 2008, and for other purposes. [Engrossed in House]

H.R. 2643 (pcs) Making appropriations for the Department of the Interior, environment, and related agencies for the fiscal year ending September 30, 2008, and for other purposes. [Placed on Calendar Senate]

S. 1696 (pcs) Making appropriations for the Department of the Interior, environment, and related agencies for the fiscal year ending September 30, 2008, and for other purposes. [Placed on Calendar Senate]

H.R. 2337 (ih) To promote energy policy reforms and public accountability, alternative energy and efficiency, and carbon capture and climate change mitigation, and for other purposes. [Introduced in House]

H.Con.Res. 184 (ih) Expressing the sense of the Congress opposing removal of dams on the Columbia and Snake Rivers for fishery restoration purposes, supporting the renewable energy that the dams produce, and agreeing that their removal does not make sound environmental nor fiscal sense. [Introduced in House]

H.R. 3089 (ih) To secure unrestricted reliable energy for American consumption and transmission. [Introduced in House]

H.R. 2262 (ih) To modify the requirements applicable to locatable minerals on public domain lands, consistent with the principles of self-initiation of mining claims, and for other purposes. [Introduced in House]

H.R. 2338 (ih) To establish the policy of the Federal Government to use all practicable means and measures to assist wildlife populations in adapting to and surviving the effects of global warming, and for other purposes. [Introduced in House]

S.Res. 208 (ats) Encouraging the elimination of harmful fishing subsidies that contribute to overcapacity in the world's commercial fishing fleet and lead to the overfishing of global fish stocks. [Agreed to Senate]

H.R. 2337 (rh) To promote energy policy reforms and public accountability, alternative energy and efficiency, and carbon capture and climate change mitigation, and for other purposes. [Reported in House]

H.Con.Res. 94 (ih) Encouraging the elimination of harmful fishing subsidies that contribute to overcapacity in commercial fishing fleets worldwide and that lead to the overfishing of global fish stocks. [Introduced in House]

H.Con.Res. 125 (ih) Recognizing the health benefits of eating seafood as part of a balanced diet, and supporting the goals and ideals of National Seafood Month. [Introduced in House]

H.R. 1975 (ih) To designate certain National Forest System lands and public lands [Introduced in House]

H.Con.Res. 94 (rfs) Encouraging the elimination of harmful fishing subsidies that contribute to overcapacity in commercial fishing fleets worldwide and that lead to the overfishing of global fish stocks. [Referred in Senate]

H.R. 2735 (ih) To provide additional funding for operation of national wildlife refuges. [Introduced in House]

H.R. 2419 (rh) To provide for the continuation of agricultural programs through fiscal year 2012, and for other purposes. [Reported in House]

H.R. 2419 (eh) To provide for the continuation of agricultural programs through fiscal year 2012, and for other purposes. [Engrossed in House]

H.R. 3221 (ih) Moving the United States toward greater energy independence and [Introduced in House]

H.R. 3220 (ih) Moving the United States toward greater energy independence and [Introduced in House]

H.R. 2961 (ih) To expand the boundaries of the Wallkill National Wildlife Refuge located in Sussex county, New Jersey, and to authorize appropriations for the acquisition of lands and waters located within such expanded boundaries. [Introduced in House]

Source is http://www.gpoaccess.gov/bills/index.html
Searched database by keyword = "fish"

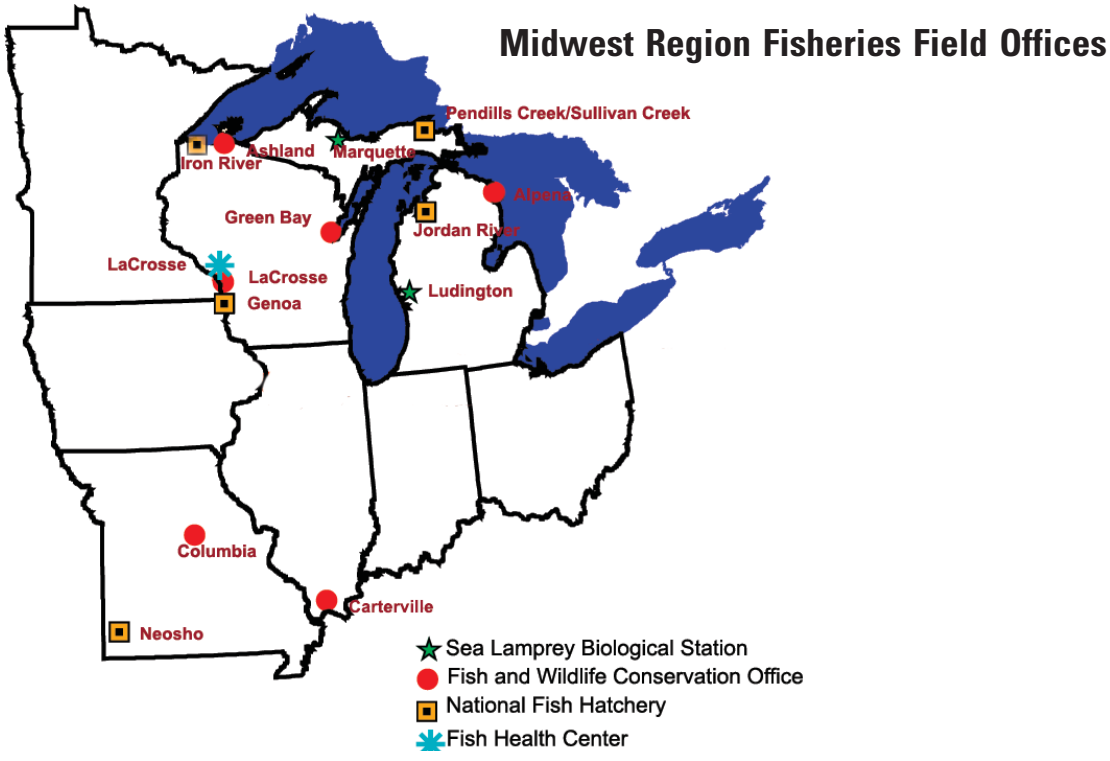
Midwest Region Fisheries Divisions

National Fish Hatcheries
The Region's National Fish Hatcheries primarily focus on native fish restoration/rehabilitation by stocking fish and eggs, such as pallid and lake sturgeon and by developing and maintaining brood stocks of selected fish strains, such as lake trout and brook trout. Hatcheries also provide technical assistance to other agencies, provide fish and eggs for research, stock rainbow trout in fulfillment of federal mitigation obligations and assist with recovery of native mussels and other native aquatic species.

Fish and Wildlife Conservation Offices
Fish and Wildlife Conservation Offices conduct assessments of fish populations to guide management decisions, perform key monitoring and control activities related to invasive, aquatic species; survey and evaluate aquatic habitats to identify restoration/rehabilitation opportunities; play a key role in targeting and implementing native fish and habitat restoration programs; work with private land owners, states, local governments and watershed organizations to complete aquatic habitat restoration projects under the Service's Partners for Fish and Wildlife and the Great Lakes Coastal Programs; provide coordination and technical assistance toward the management of interjurisdictional fisheries; maintain and operate several key interagency fisheries databases; provide technical expertise to other Service programs addressing contaminants, endangered species, federal project review and hydro-power operation and relicensing; evaluate and manage fisheries on Service lands; and, provide technical support to 38 Native American tribal governments and treaty authorities.

Sea Lamprey Biological Stations
The Fish and Wildlife Service is the United States Agent for sea lamprey control, with two Biological Stations assessing and managing sea lamprey populations throughout the Great Lakes. The Great Lakes Fishery Commission administers the Sea Lamprey Management Program, with funding provided through the U.S. Department of State, U.S. Department of the Interior, and Fisheries and Oceans Canada.

Fish Health Center
The Fish Health Center provides specialized fish health evaluation and diagnostic services to federal, state and tribal hatcheries in the region; conducts extensive monitoring and evaluation of wild fish health; examines and certifies the health of captive hatchery stocks; and, performs a wide range of special services helping to coordinate fishery program offices and partner organizations.



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Pendills Creek/Sullivan Creek National Fish Hatchery
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Fish Tails

"Fish Tails" includes articles that are included in field station reports that are not published in the "Conservation Briefs." These articles are categorized by focus area and includes the article title, author and field station. The website link, where the full article can be viewed, is highlighted in blue type.

Partnerships and Accountability

Aquatic Species Conservation and Management

Aquatic Invasive Species

Public Use

Cooperation with Native Americans

Leadership in Science and Technology

Aquatic Habitat Conservation and Management

Workforce Management

-USFWS

Kinross Head Start of Kinross, Michigan, made its annual visit to Pendills Creek NFH last fall. This enthusiastic youngster came to see fin clipping, learn a little about what we do here and get his chance to hold or pet a live lake trout.